NOTES AND NEWS

The Discovery of the Lichen Parmeliopsis placorodia in Western North America.—The foliose lichen *Parmeliopsis placorodia* (Ach.) Nyl. is a locally common epiphyte of pine in the eastern United States. Six years ago I presented a map of its distribution from a study of materials from many herbaria. The species was found in twelve states from Maine to North Carolina and northwestward to Michigan and Wisconsin (Culberson, Revue Bryol. Lichénol. 24:334–337. 1955). Many new localities in the eastern states have since been found, most of them by Dr. Mason E. Hale. These new localities, including those in West Virginia and Kentucky (specimens at US) where the species had not before been recorded, fall within the previously delimited range.

In a current study of some *Parmelia* specimens from various herbaria, I found a misidentified specimen of *Parmeliopsis placorodia* from Arizona. It was collected in 1946 by Dr. R. A. Darrow, but it was not determined by him. Dr. Hale then sent me a 1957 collection from Arizona by Dr. W. A. Weber and Dr. S. Shushan. In the spring of 1959, in correspondence about these western specimens, Dr. Weber wrote that he and Dr. Shushan had just found the species in Colorado and sent a sample; later his student, Mr. R. A. Anderson, also sent me material from South Dakota. The known western localities for *P. placorodia* are then:

Arizona. Santa Cruz County: Santa Rita Mountains, 8,600 feet elevation, *Darrow 4351* (Darrow Herbarium, College Station, Texas; WIS). Cochise County: Chiricahua Mountains west of Portal, 8,500–10,000 feet elevation, *Weber & Shushan S8980* (US). Colorado. Boulder County: Boulder Canyon, north slope, 8,000 feet elevation, *Weber & Shushan S17,954* (COLO). South Dakota. Lawrence County: Black Hills, vicinity of Roubaix Lake, 5,450 feet elevation, *Anderson S20,941* (DUKE). Pennington County: Black Hills, Rockerville Camp Ground, 4,000 feet elevation, *Anderson S20,893* (DUKE).

The habit of the western specimens, all with apothecia, is identical to that of specimens from the eastern states. The western specimens also contain the depside thamnolic acid identified in microchemical analysis by the presence of typical crystals of the aniline condensation product.

In the five new localities, the species was collected on the bark of *Pinus ponderosa* Laws. *sensu lat.* (including var. *arizonica*). All known epiphytic specimens from the eastern United States are likewise from pines, but the species also occurs on old fence rails in some places in New England. In the East, *Parmeliopsis placorodia* habitually grows with *Cetraria fendleri* (Nyl.) Tuck., another North American lichen of ecologic amplitude very similar to that of *Parmeliopsis placorodia*. *Cetraria fendleri*, however, has been known for some seventy years from pine and "dead wood" in New Mexico and Colorado. Although in the eastern states *C. fendleri* may be somewhat more broadly distributed than *Parmeliopsis placorodia*, the high ecologic similarity and doubtless the similar distributional history of the two species seem to be borne out by the western finds reported here. William L. Culberson, Department of Botany, Duke University, Durham, North Carolina.

Observations on Arceuthobium vaginatum in Mexico.—The dwarfmistletoe *Arceuthobium vaginatum* (Willd.) Presl is a common parasite of pines in Guatemala, Mexico, and the southwestern and central Rocky Mountain areas of the United States. The taxonomic status of the parasite, particularly in the southern parts of its range, is unsettled. Gill (Conn. Acad. Arts & Sci. Trans. 32:111–245. 1935) designated a northern form on *Pinus ponderosa* var. *scopulorum* Engelm. as *Arceuthobium vaginatum* forma *cryptopodum* (Engelm.) Gill. Gill did not subdivide *A. vaginatum* as it occurs in Mexico, but listed it on *Abies religiosa* Schl. and Cham., *Pinus leiophylla* Schl. and Cham., and *P. hartwegii* Lindl. Sosa (Bol. Dept. Forest. y Caza y Pesca [Mexico] 4:123–156. 1939) recorded this parasite on *Pinus montezumae* Lamb. as did Kuijt (Bot. Rev. 21:569–626. 1955) for *P. tenuifolia* Benth. Gill (loc. cit.) also

noted the predominantly Mexican form of *A. vaginatum* on *Pinus engelmannii* Carr., *P. leiophylla* var. *chihuahuana* (Engelm.) Shaw, and *P. ponderosa* var. *arizonica* (Engelm.) Shaw in southern Arizona and southern New Mexico. To this list of hosts may be added *P. pseudostrobus* Lindl., which was parasitized by *A. vaginatum* (*Hawksworth 51*; March 10, 1956) in Atzimba National Park between Zitacuaro and Morelia in the State of Michoacan, Mexico. This parasite probably occurs on other Mexican pines as there are several reports of it in the literature that do not classify the host species of *Pinus*.

Arceuthobium vaginatum is common on *Pinus montezumae* (*Hawksworth 49*; March 10, 1956) along Highway 15 between Toluca and Zitacuaro in the State of Mexico. No infection was seen on *P. leiophylla* in the stands examined, although this tree was closely intermixed with infected *P. montezumae*. *Pinus leiophylla* is attacked by *A. vaginatum* elsewhere in Mexico so this suggests the possibility of rather specific host preferences among races of this parasite, as was reported by Gill (loc. cit.) for *A. campylopodum* in Western North America.

In central Mexico *Arceuthobium vaginatum* is a robust plant with shoots frequently more than thirty centimeters high. In Arizona and New Mexico, shoots of *A. vaginaum* f. *cryptopodum* rarely exceed twenty certimeters in length. An additional differences is that witches' brooms caused by the dwarfmistletoe are not nearly as conspicuous in Mexican pines as in *Pinus ponderosa* var. *scopulorum* in the southwestern United States.

The biology and taxonomy of the dwarfmistletoes of Mexican conifers are poorly known and present a challenging opportunity for critical study.—Frank G. Hawksworth, Rocky Mountain Forest and Range Experiment Station, U. S. Forest Service, Fort Collins, Colorado.

Additions to the Aquatic Flora of Arizona.—The aquatic flowering plants of Arizona have not been adequately studied, consequently it is not surprising to find species previously unreported for the state in such habitats. The following three new records were obtained during the summer of 1958 while the junior author assisted with collecting for the herbarium of the Museum of Northern Arizona (MNA); the fourth was sent by the collector to the University of Arizona for identification.

Elatine californica Gray (*Hevly* s.n., 17 August 1958, MNA) and *Limosella aquatica* Sesse & Mocino (*Hevly* s.n., 17 August 1958, ARIZ, MNA) occur in White Horse Lake south of Williams, Coconino County, altitude 6500 feet. This lake was created by the relatively recent damming of a tributary to Sycamore Creek; it is suggested that migratory birds making use of this new environmental area may have introduced these species.

Potamogeton richardsonii (Benn.) Rydb. was collected at Wheatfields Lake, Apache County, on the Arizona-New Mexico boundary (*Hevly, Haskell* and *Deaver* s.n., 23 July 1958, ARIZ, MNA). The introduction of this species might also be attributed to migratory birds.

Typha angustifolia L. was collected south of Yuma in the marshes along the Colorado River, Yuma County (*D. Tuttle* s.n., 14 September 1959, ARIZ). Both *T. latifolia* L. and *T. domingensis* Pers. also occur in the Arizona flora.—Charles T. Mason, Jr. and Richard H. Hevly, University of Arizona, Tucson, Arizona.

Note to Members.—All back numbers of Madroño are currently available. However, some issues are in very short supply. It is therefore suggested that members not wishing permanently to retain their copies return them to the Corresponding Secretary so that they may be used for the benefit of the Society. To facilitate record-keeping, it is recommended that those members complying with this request return issues by book rate not oftener than once a year.—Editor.